



Åkerman EC300



- **Engine Power:**
154 kW (209 hp)
- **Operating Weight:**
30,0 – 31,0 t
- **Buckets:**
900 – 1700 l
- Direct injection, turbocharged Volvo diesel engine
- Åkerman three-circuit multilevel priority hydraulic system
- COS = Capacity Optimized System – all three pumps for the digging movements. Mode Selector and electronically controlled pump regulation (SSC = Speed Sensing Control)
- New Comfort cab
 - computerized control and warning system
 - ergonomic environment
 - low sound level
 - filtered air
- Heavy duty equipment with spherical bearings
- Digging and breakout forces for tough conditions
- Highest flexibility for extra equipment/hydraulics
- Long undercarriage for high stability

ÅKERMAN

ENGINE



The engine is a turbocharged, 4-stroke diesel engine with water cooling and direct injection.

Make		Volvo	
Model		TD 71 ACE	
Net output at	r/s (r/min)	33,3 (2000)	
ISO 3046 / DIN 6271	kW (hp)	154 (209)	
No. of cylinders		6	
Displacement, total	l	6,73	
Bore	mm	104,77	
Stroke	mm	130	

ELECTRIC SYSTEM



Micro processor for monitoring of engine/hydraulic system. High capacity and well protected electric system. Printed circuit board based electric central with clearly arranged fuses and relays. Central prepared for connection optional equipment. Battery disconnecter standard.

Voltage	V	24
A.C. Generator	V/A	28/45
Battery	V	4 x 12
Battery capacity	Ah	120
Alternator rating	W	1260

DRIVE TRAIN



Each track is powered by an axial piston hydraulic motor. The track brakes are of multidisc type and are spring applied and hydraulically released.

Max. tractive force	kN	297
Max. travel speed	km/h	2,8
Gradeability, continuously	° (%)	46 (102)

SERVICE REFILL CAPACITIES



Fuel tank	l	340
Fuel pump capacity	l/min	90
Hydraulic system, total	l	430
Diesel engine	l	25
Cooling system (incl. glycol)	l	31
Slew ring	l	20

UNDERCARRIAGE



Heavy duty box designed body with solid slew ring support.

Track chain size	B6
No. of track shoes	2 x 53
Track width	mm 650
all.	mm 750, 880
No. of bottom rollers	10
No. of top rollers	2

CAB



Tested cab structure according to FOPS ISO 3471. Large panes for all round for good visibility. The upper front pane can be pushed up in the ceiling, and the lower one can be removed. Sliding side window in the cab door.

Heater and defroster: Pressurized and filtered cab. A 3 speed fan provides efficient heating and defrosting through 14 outlets. Prepared for Air Conditioning.

Operator's seat: Adjustable suspension operator's seat with headrest and individually adjustable armrests and hand controls.

Sound level: Approved according to 86/662/EEC.

Surroundings (ISO 6393)

(10 m distance from the machine)

Average value L_{pA} (acoustic pressure) dB(A) 80

Average value L_{wA} (acoustic power) dB(A) 108

Inside the cab (ISO 6394)

with the door closed

L_{pA} (acoustic pressure) dB(A) 75

SLEWING SYSTEM



The superstructure is slewed by an axial piston motor through a servo released slew brake, into the two-step slew gear giving torque to the inner tooth race of the slew ring. The entire slew ring runs in a dust protected oil bath.

Slew, start to stop*		
90° turn	s	4,8
180° turn	s	7,1

* Empty bucket and equipment extended

HYDRAULIC SYSTEM



Åkerman 3-circuit multilevel priority system all-servo controlled.

Pumps: P1 is a pressure controlled variable pump with priority to slew circuit. P2 and P3 are power and pressure controlled variable pumps with opposite cross flow priority to boom, bucket and arm.

Mode selector: Three working modes:

HLD = Heavy Lift Device

ECO = Economy

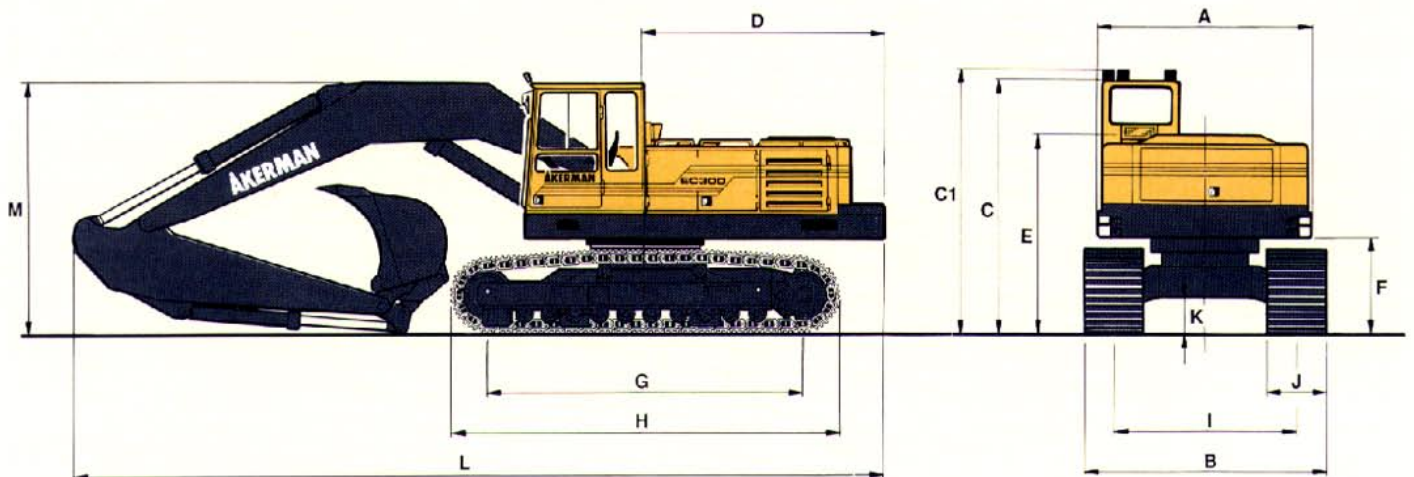
CAP = Capacity

Powerboost temporarily selectable 10 sec. even in Economy and Capacity mode.

Valve system: Boom, arm and bucket are operated by dual main valves to obtain best combination of precision manoeuvrability and minimized fuel consumption. Boom cylinder movement equipped with floating position to increase the digging speed. Security hose rupture valve on the boom cylinder.

Pump P1			
Max. pressure	MPa		26
Max. flow	l/min		110
Pumps P2 and P3			
Max. pressure	MPa		26
Power boost	MPa		30
Max. flow	l/min		2 x 170
Servo pump			
Pressure	MPa		6,5
Flow	l/min		20

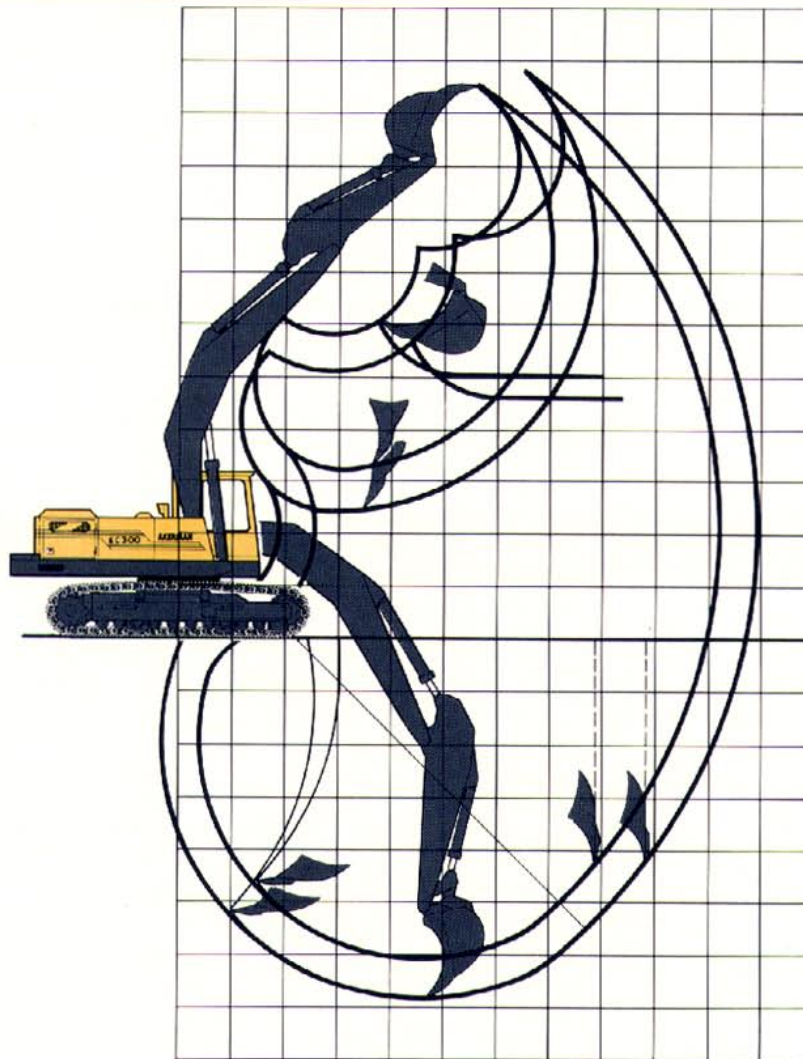
DIMENSIONS



A:	mm	2750
B:	mm	3100-3330
C:	mm	3170
C1:	mm	3310
D:	mm	3160
E:	mm	2360
F:	mm	1120
G:	mm	4210

H:	mm	5130
I:	mm	2450
J:	mm	650/750/880
K:	mm	420
L:	mm	10 300 (2,5 m arm)
L:	mm	10 300 (3,2 m arm)
M:	mm	3 310 (2,5 m arm)
M:	mm	3 310 (3,2 m arm)

WORKING RANGES



Arm	m	2,5	3,2
Max reach	m	10,4	10,9
Max. reach at ground level	m	10,2	10,7
Max. digging depth	m	6,2	6,8
Max. height, ground			
– tooth tip	m	10,6	10,6
Max. dumping height	m	7,2	7,4
Max. practical dumping height	m	4,9	4,8
Practical digging depth at a repose of material of 45°	m	5,1	5,4
Max. vertical digging depth	m	4,3	4,4
Min. slewing radius in front	m	4,1	4,0

BUCKET AND ARM COMBINATIONS

BUCKETS	Volume SAE l	Cutting width mm	Weight kg	Fitting *	Suitable for arm	
					2,50 m	3,20 m
Heavy Duty 2 t/m ³	1250	1200	1125	Std.	•	•
	1500	1200	1175	Std.	•	•
	1250	1200	1125	QF	•	•
	1450	1200	1255	QF	•	•
Light material 1,5 t/m ³	1700	1450	1150	QF	•	
	1700	1450	1285	QF	•	
Articulated slope bucket	900	2000	1090	QF	•	•

* Std. = Direct fitting
QF = Quick fit

DIGGING FORCE

Bucket digging force*	kN	195
Dipper arm force*	kN	156

* HD-bucket, 1250 l SAE, and 2500 mm dipper arm.

WEIGHT AND GROUND PRESSURE





Standard machine, 2,50 m dipper arm, 1500 l bucket and counterweight 4000 kg.

Track shoes	Machine weight	Ground pressure
650 mm	30 000 kg	51,7 kPa
750 mm	30 400 kg	45,5 kPa
880 mm	31 000 kg	39,5 kPa

STABILITY AND LIFTING CAPACITIES

In the bucket lifting hook. Unit: 1000 kg.

 Across carriage  Along carriage	Lifting hook related to ground level	Reach from machine centre								Max. reach												
		4,5 m		6,0 m		7,5 m		9,0 m		Max. reach		Max. m										
5,87 m boom 2,5 m arm 650 mm track shoes Bucket weight: 1175 kg	7,5 m					5,98	5,15	11,0	5,15			5,50	4,16	10,2	4,16	7,8						
	6,0 m			8,54	5,55	15,1	5,55	5,83	5,43	10,8	5,43			4,20	4,26	8,03	4,26	8,8				
	4,5 m	12,5	8,53	25,0	8,53	8,02	6,86	15,1	6,86	5,50	6,06	10,3	6,06	3,89	5,49	7,54	5,49	3,54	4,48	6,96	4,48	9,4
	3,0 m	11,2	12,1	23,5	12,1	7,30	8,31	14,3	8,31	5,13	6,88	9,88	6,88	3,70	6,08	7,31	6,08	3,12	3,22	6,32	3,22	9,8
	1,5 m	10,6	14,5	22,8	14,5	6,83	9,90	13,7	9,90	4,82	7,61	9,52	7,61	3,53	6,47	7,10	6,47	3,02	3,80	6,20	3,80	9,8
	0,0 m	10,6	15,5	23,0	15,5	6,62	10,7	13,4	10,7	4,64	8,13	9,31	8,13	3,43	6,60	7,01	6,60	3,14	4,89	6,45	4,89	9,5
	-1,5 m	10,6	15,0	22,9	15,0	6,59	10,8	13,4	10,8	4,59	8,23	9,26	8,23	3,46	4,39	7,03	4,39	3,46	4,39	7,03	4,39	9,0
	-3,0 m	10,8	13,8	23,0	13,8	6,71	10,0	13,5	10,0	4,77	7,57	9,49	7,57					4,31	6,36	8,58	6,36	8,0
5,87 m boom 3,2 m arm 650 mm track shoes Bucket weight: 1125 kg	7,5 m					6,26	4,36	11,3	4,36			4,66	2,87	7,53	2,87	8,6						
	6,0 m					6,06	4,68	11,0	4,68	4,19	4,63	7,90	4,63	3,69	2,93	7,10	2,93	3,69	2,93	7,10	2,93	9,5
	4,5 m			8,39	5,94	15,6	5,94	5,71	5,39	10,6	5,39	4,03	5,18	7,69	5,18	3,11	2,66	6,21	2,66	3,11	2,66	10,1
	3,0 m	11,7	10,9	24,1	10,9	7,59	7,47	14,6	7,47	5,29	6,29	10,1	6,29	3,80	5,65	7,42	5,65	2,81	2,55	5,75	2,55	10,4
	1,5 m	10,7	13,9	22,9	13,9	6,96	9,18	13,8	9,18	4,92	7,13	9,65	7,13	3,59	6,16	7,17	6,16	2,71	2,93	5,64	2,93	10,4
	0,0 m	10,4	15,2	22,6	15,2	6,62	10,3	13,5	10,3	4,67	7,83	9,36	7,83	3,43	6,50	7,00	6,50	2,75	2,80	5,74	2,80	10,2
	-1,5 m	10,4	15,2	22,5	15,2	6,51	10,8	13,3	10,8	4,56	8,19	9,23	8,19	3,38	6,55	6,94	6,55	3,05	4,20	6,30	4,20	9,6
	-3,0 m	10,5	14,5	22,6	14,5	6,56	10,4	13,4	10,4	4,59	7,98	9,27	7,98					3,60	4,27	7,29	4,27	8,8
-4,5 m	10,8	12,4	23,0	12,4	6,80	8,96	13,7	8,96	4,87	4,99	9,60	4,99					4,87	4,99	9,60	4,99	7,5	

Tipping load*

Hydr. lifting capacities**

* Regardless of the hydraulic lifting capacity of the machine.
 ** Regardless of the stability of the machine.

Working pressure with HLD = 30 MPa (300 bar)

STANDARD EQUIPMENT

Engine and electrical system

Computer controlled monitoring system
 Battery disconnecter and main fuel tap
 Air filter with indicator
 Hour meter
 Electric starter element
 Revs counter
 Fuel meter
 Temperature meter for cooling fluid and hydraulic oil
 24 volt electrical system with 4 standard batteries

Undercarriage

Slew ring in oil bath
 Top rollers, 2 pcs
 Tripple grousers
 650 mm track shoes with mud holes
 Hydraulic track adjuster
 Derailing shields, 3 pcs

Safety and Comfort

Cab heating with 14 outlets
 Filtered air intake
 Cab skylight
 Openable side pane
 Emergency exit through rear window
 Ergonomically designed and adjustable operator's seat
 Rear view mirrors,
 2 exterior
 1 interior
 Lights:
 5 working lights, front, halogen
 1 working light, rear, halogen
 Instrument lighting
 Illuminated cab, engine compartment and fuel filling compartment
 Safety bar for control levers
 Double intermittent windscreen wipers
 Extra hose rupture valve on boom cylinder

Hydraulic refuelling pump, 90 l/min
 Air horn

Hydraulics

Three variable axial piston working pumps
 Mode selector, 3 steps
 Standard filter cartridges for return, leak oil and respiration filter systems.
 Dual main valve for the travel and equipment functions
 Float position on boom
 Hose rupture valve on boom
 Refilling pump for hydraulic oil
 Automatic idling speed (Fuel-miser)
 Power boost

Equipment

5,8 m monobloc boom
 2,5 m dipper arm
 End dampening on all cylinders
 Spherical link bearings in all connections
 Security lifting hook
 Friction welded piston rod eyes

OPTIONAL EQUIPMENT *(Standard on certain markets)*

Engine and Electrical System

Electric over speed protector
 Rear lights
 Cranked exhaust pipe
 Digital timer
 Combined cab/engine heater Primus 2460
 Engine heater Primus 2400/2440
 Precyclone with exhaust ejector

Undercarriage

750 mm and 880 mm track shoes
 Tool box
 Skid rails

Safety and Comfort

Tinted windows
 Interior and exterior glare shields
 Protective grid for front pane/roof pane
 Support for fire extinguisher
 Operator's seat with air cushion suspension
 Seat belts
 Rotating beacon
 Sun visor
 Sun shield
 Rear window jalousie
 Air conditioning
 Fine filter for the cab
 Extra hose rupture valve on dipper arm/bucket cylinders

Micro filter for the cab
 Extra circulation pump for the heating system
 Radio cassette
 Tropical equipment
 Windscreen washers

Hydraulics

Hydraulic equipment for:
 slope bucket
 grab
 hydraulic hammer
 jib
 crusher
 shears
 Installation of a 4th working pump
 Socket for hydraulic hand tools

Equipment

Dipper arm 3,2 m
 Extra headlights on the boom
 Automatic grease system
 Hydraulic quickfit
 Mechanical quickfit
 Varios buckets

Under our policy of continuous product improvement, we reserve the right to change specifications and design without prior notice. The illustrations do not necessarily show the standard version of the machine.

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